

Appendix M – Compatibility Determinations

Compatibility determinations must be completed for all recreational uses, or other uses of the Monument by the public or other non-Monument entity. This includes actions the FWS might take associated with a particular recreational use or other general public use, including any economic activity (e.g., commercial guiding) proposed for the Monument. The Monument Manager and the FWS's Regional Chief must determine that the activity is a "compatible use." That is, it is a wildlife-dependent recreational use, or other use of the Monument that, based on sound professional judgment, will not materially interfere with, or detract from, the mission of the NWRS or the purposes of the Monument. The compatibility determination itself is simply the written determination by the Monument Manager and Regional Chief signifying that the use is a compatible use or is not a compatible use.

In determining what is a compatible use, the Refuge Administration Act relies on the "sound professional judgment" of the person authorized to make the decision.¹⁴⁰ Compatibility determinations are inherently complex and require the Monument Manager to consider their field experiences and knowledge of the Monument's resources, particularly its biological resources, and make conclusions that are consistent with principles of sound fish and wildlife management and administration, available scientific information, and applicable laws.

The Monument Manager must also consider the extent to which available resources (funding, personnel and facilities) are adequate to develop, manage and maintain the proposed use so as to ensure compatibility. The Monument Manager must make reasonable efforts to ensure that the lack of resources is not an obstacle to permitting otherwise compatible wildlife-dependent recreational uses (hunting, fishing, wildlife observation and photography, and environmental education and interpretation). If reasonable efforts do not yield adequate resources to develop, manage and maintain the wildlife-dependent recreational use, the use will not be compatible because the FWS will lack the administrative means to ensure proper management of the public activity on the Monument.

Since permitting uses of the Monument is a determination vested by law to the FWS, under no circumstances (except emergency provisions necessary to protect the health and safety of the public or any fish or wildlife population) may a use be authorized which is not determined to be compatible with the purposes of the Monument and/or the NWRS.

On the pages that follow, six compatibility determinations are completed for the Monument. Others will be completed as need dictates.

¹⁴⁰ The Refuge Administration Act designates the Director of the FWS as the ultimate decision maker. The Director, in turn, delegates authority to make compatibility determinations through the Regional Director to the Monument Manager. Therefore, it is the Monument Manager who is required and authorized to exercise sound professional judgment.

DRAFT Compatibility Determination - Fishing

Use

Fishing

Refuge Name

Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge (Monument)

Establishing and Acquisition Authorities

The Saddle Mountain National Wildlife Refuge (24,000 acres) was established on November 30, 1971, through a permit with the Department of Energy and under the authority of the Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742(a)-754).

The Hanford Reach National Monument (195,000 acres), which includes the Saddle Mountain National Wildlife Refuge, was established on June 9, 2000, through Presidential Proclamation 7319 under the authority of the Antiquities Act of 1906.

Refuge Purposes

National wildlife refuges are established “. . . for the development, advancement, management, conservation, and protection of fish and wildlife resources . . .” (16 U.S.C. §742f(a)(4)) and also “. . . for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude . . .” (16 U.S.C. §42f(b)(1); Fish and Wildlife Act of 1956, 16 U.S.C. §742(a)-754, as amended).

The Monument was established “. . . for the purpose of protecting the objects identified above [riparian, aquatic and upland shrub-steppe habitats; native plant and animal species; free-flowing, non-tidal stretch of the Columbia River; shrub-steppe ecosystems; breeding populations of birds; habitat for migratory birds; mammals; insect populations; geological and paleontological objects; Archaeological and historic information] . . .” (Monument Proclamation 7319, dated June 9, 2000).

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS) is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use

In the NWRS Improvement Act, the United States Congress declared fishing one of six wildlife-dependent public uses of the NWRS. If determined compatible, fishing would become a priority public use for the Monument. Currently, on FWS-administered Monument lands, recreational bank fishing occurs on the east bank of the Columbia River north of the WDFW Ringold Fish Hatchery.¹⁴¹ Bank fishing areas are accessed from one of eight existing parking lots; anglers walk cross-country or on user-created trails from between 1/10 mile to more than 1/4 mile to the river shore.¹⁴² Additional user-created trails follow the shoreline in some areas.¹⁴³

Fish caught by Monument visitors include Chinook and chum salmon (seasonally), sturgeon, and resident gamefish, including catfish and bass. Although the U.S. Fish and Wildlife Service (FWS) does not closely monitor all fishing on the Monument, we anticipate that use will increase over the next fifteen years.

Availability of Resources

The Monument is open for many public uses other than fishing, including hunting, environmental education and interpretation, wildlife photography, and wildlife observation. The same facilities used for these activities are also useful for fishing. However, access trails, parking lots, signs and other facilities are inadequate, as are staff resources, to enforce regulations and maintain these facilities. The costs outlined in the table below would be required to administer and manage fishing on the Monument.

¹⁴¹ Primary jurisdiction for bank fishing below the mean high water mark lies with the state of Washington and primary jurisdiction for public activities within the easement associated with the WB-10 Ponds and wasteways lies with the Bureau of Reclamation. See the following footnote regarding fishing from the river.

¹⁴² Boat anglers can access the river from improved boat launches in Richland, a hardened launch near the White Bluffs townsite, or primitive boat launches (i.e., launch over the bank) at the Ringold Fish Hatchery or Parking Lot 7 on the Monument. Fishing from the river is controlled by the state of Washington.

¹⁴³ The Monument would also investigate fishing opportunities for disabled users.

Activity or Project	One Time Expense	Recurring Expense
Law Enforcement		\$5,000
Development/Maintenance of Parking & Trails	\$10,000	\$500
Placement and Maintenance of Signs	\$2,000	\$500
Outreach, Education, Monitoring	\$3,000	\$2,000
Development/Maintenance of Accessible Sites	\$50,000	\$5,000
<i>Totals</i>	<i>\$65,000</i>	<i>\$13,000</i>

Anticipated Impacts of the Use

Fishing as a solitary and stationary activity tends to be less disturbing to wildlife than hunting or motorized boating (Tuite et al. 1983). However, there would be disturbance of birds and other wildlife using the open waters where fishing would occur. Fishing activities may influence the composition of bird communities, as well as distribution, abundance, and productivity of waterbirds (Tydeman 1977, Bouffard 1982, Bell and Austin 1985, Bordignon 1985, Edwards and Bell 1985, and Cooke 1987). Anglers often fish in shallow, sheltered bays and creeks that birds prefer, negatively impacting distribution and abundance of waterfowl, grebes, and coots (Cooke 1987). Increases in anglers and associated shoreline activity discouraged waterfowl from using otherwise suitable habitat (Jahn and Hunt 1964). In Britain, anglers displaced waterfowl from their preferred feeding and roosting areas and caused wigeon, green-winged teal, pochard, and mallard to depart from a reservoir prematurely (Jahn and Hunt 1964). Anglers influenced the numbers, behavior, and diurnal distribution of avian scavengers present at sites in Washington, when compared to non-fishing days (Knight et al. 1991). Shoreline activities, such as human noise, would cause some birds to flush and go elsewhere.

Bank fishing allows the anglers direct access to the river, bays and sloughs. Waterbird and waterfowl use of these areas varies seasonally, as does angler presence. Waterfowl are prevalent on the river in the winter, especially when surrounding wetlands freeze, but angler presence is little or none, as is disturbance to waterfowl (see the Hunting Compatibility Determination for impacts to waterfowl). Bald eagle roost sites occur within the bank fishing area, but eagles are more common in winter months when angler presence is low. The nesting period identified in the Bald Eagle Recovery Plan identifies January 1 as the beginning of the nesting season when special protective measures should begin (FWS 1986). As most bank fishing activity takes place outside of Bald Eagle nesting habitat, adverse impacts are not anticipated. Bank fishing occurs in a slough near a heron rookery near one of the parking areas along the Ringold river road. Access to the banks of this slough, however, is difficult, and most bank fishing occurs at the opposite end of the slough, away from the rookery. Washington State requires a minimum 900-

foot buffer zone to protect colonies from human disturbances (WDFW 2001). Based on the literature we would expect there to be some disturbance to the rookery during its seasonal use.

In addition, trampling of vegetation and deposition of sewage or other chemicals are expected to commonly occur (Liddle and Scorgie 1980). Disturbance and destruction of riparian vegetation, bank stability, water quality, and littering may result from high levels of bank fishing activities.

By its nature, fishing results in the intentional take of individual fish. Catch and release fishing can also harm individual fish, killing them or reducing their likelihood of long-term survival. Although creel and fishing activity censuses have not been made in this particular area, it is estimated that use will increase and that the WDFW will continue to monitor harvest by anglers and routinely adjust regulations to ensure that overall populations of game species remain healthy into the future. The number of people fishing and any potential impacts will be monitored and access points, areas open/closed to fishing, and seasonal/temporary closures will be considered in coordination with the WDFW.

It is well recognized that fishing can give many people a deeper appreciation of fish and wildlife and a better understanding of the importance of conserving habitat, which ultimately contributes to the NWRS mission. Furthermore, when determined compatible, fishing is one of the six priority public uses on the NWRS.

Public Review and Comment

This Compatibility Determination was prepared concurrent with the Monument's CCP/EIS. Open houses were held and written comments were solicited from the public during the scoping period for the Monument's CCP/EIS. Public review and comment will be solicited during the draft CCP/EIS comment period.

Determination

_____ The use is not compatible.

—X— The use is compatible with the following stipulations.

Stipulations Necessary to Ensure Compatibility

- Monitoring will be conducted to ensure that high-quality habitat for feeding, resting, breeding and thermal protection for waterfowl, waterbirds and other wildlife species is maintained.
- The Monument will provide information on bank fishing and access at appropriate sites and through printed brochures. Information will also include current migratory bird and Monument regulations, as well as maps of closed areas.
- Monument officers will enforce any closed areas and use restrictions.
- All fishing on the Monument would require an appropriate state license and tag and all fishing will be consistent with applicable state regulations.

The Monument will monitor and evaluate the fishing program and users to determine if objectives are being met.

Justification

When determined compatible, fishing is one of the six priority public uses of the NWRS. Providing a quality fishing program contributes to achieving one of the Monument's goals. This program as described was determined to be compatible with the Monument purposes even though jurisdiction where most of the bank fishing would occur (below the mean high water level) lies with the state of Washington. Sufficient restrictions will be placed on fishing to ensure that an adequate amount of high-quality feeding, breeding and resting habitat would be available for migratory birds in relatively undisturbed areas (sanctuaries). Based on monitoring, bank fishing activity may need to be confined to designated areas.

In addition, the majority of waterfowl and bald eagle use near bank fishing areas occurs in the winter and spring months, although a few birds arrive as early as September and October. Since the majority of fishing activity occurs in the spring, summer and fall (through mid-October), disturbance to waterfowl species and eagles is expected to be minimal.

It is anticipated that wildlife, primarily waterbirds, will find sufficient food resources and resting places such that their abundance and use of the Monument will not be measurably lessened, fishing pressure will not cause fish stocks (i.e., forage) to decline, the physiological condition and production of waterfowl and other waterbirds will not be impaired, their behavior and normal activity patterns will not be altered dramatically, and their overall welfare will not be negatively impacted.

Mandatory 10- or 15-year Re-evaluation Date

Provide month and year for “allowed” uses only.

- ☒ Mandatory 15-year re-evaluation date (for wildlife-dependent public uses).
- ☐ Mandatory 10-year re-evaluation date (for all uses other than wildlife-dependent public uses).

NEPA Compliance for Refuge Use Decision

- ☐ Categorical Exclusion without Environmental Action Statement.
- ☐ Categorical Exclusion and Environmental Action Statement.
- ☐ Environmental Assessment and Finding of No Significant Impact.
- ☒ Environmental Impact Statement and Record of Decision.

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Signatures

Monument Project Leader: _____
(Signature and Date)

Refuge Supervisor: _____
(Signature and Date)

Regional Chief: _____
(Signature and Date)

DRAFT Compatibility Determination - Horseback Riding

Use

Horseback Riding

Refuge Name

Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge (Monument)

Establishing and Acquisition Authorities

The Saddle Mountain National Wildlife Refuge (24,000 acres) was established on November 30, 1971, through a permit with the Department of Energy and under the authority of the Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742(a)-754).

The Hanford Reach National Monument (195,000 acres), which includes the Saddle Mountain National Wildlife Refuge, was established on June 9, 2000, through Presidential Proclamation 7319 under the authority of the Antiquities Act of 1906.

Refuge Purposes

National wildlife refuges are established “. . . for the development, advancement, management, conservation, and protection of fish and wildlife resources . . .” (16 U.S.C. §742f(a)(4)) and also “. . . for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude . . .” (16 U.S.C. §42f(b)(1); Fish and Wildlife Act of 1956, 16 U.S.C. §742(a)-754, as amended).

The Monument was established “. . . for the purpose of protecting the objects identified above [riparian, aquatic and upland shrub-steppe habitats; native plant and animal species; free-flowing, non-tidal stretch of the Columbia River; shrub-steppe ecosystems; breeding populations of birds; habitat for migratory birds; mammals; insect populations; geological and paleontological objects; Archaeological and historic information] . . .” (Monument Proclamation 7319, dated June 9, 2000).

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS) is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use

While not one of the six wildlife dependent public uses listed or identified in the National Wildlife Refuge System Administration Act, as amended (1997), horseback riding is an existing use on the Monument that can facilitate wildlife observation, but is not necessary to achieve it. Historically, horseback riding (on roads and cross-country) has occurred on the Ringold, Saddle Mountain, and Wahluke Units.

As proposed, horseback riding would only be allowed on roads open to vehicular travel, designated administrative roads, and designated trails on the Ringold, Saddle Mountain, and Wahluke Units. Presently, most use occurs in the spring and fall months, and it is anticipated that use patterns would be similar if horseback riding is designated as a compatible activity. Currently the Monument has no hard numbers on how many user days can be attributed to this activity, however use appears to occur only seasonally and infrequently.

Availability of Resources

Costs to appropriately develop horseback riding, included signing, required maintenance and rehabilitation, monitoring, and parking lot improvements, would be moderate. The direct costs for road maintenance would be minimal, with road maintenance and monitoring for other public use activities covering all costs. Base funding is available to cover staff costs.

Activity or Project	One Time Expense	Recurring Expense
Development and Accessibility Improvements	\$25,000	\$5,000
Maintenance		\$25,000
Program Operations/Monitoring		\$15,000
<i>Totals</i>	<i>\$25,000</i>	<i>\$45,000</i>

Anticipated Impacts of the Use

Impacts related to horseback riding range from exotic plant seed dispersal (Beck 1993, Hammitt and Cole 1987) in horse coats, soil compaction and erosion (Bainbridge 1974, Hendee et al. 1990, Hammitt and Cole 1987), stream sedimentation (Seney and Wilson 1991), trail widening (Whitaker 1978), vegetation trampling (Nagy and Scotter 1974, Weaver and Dale 1978, Whitaker 1978), aesthetic concerns relative to horse manure (Lee 1975), and direct wildlife disturbance (Owen 1973), to direct and indirect conflicts with other recreationists. Exotic plants can also be spread to new sites through forage (e.g., hay brought in to feed horses, which contains seeds of exotic plants) and manure (Beck 1993).

Exotic plant establishment is further facilitated by increased trail disturbance, as many exotic plants gain a competitive advantage in highly disturbed sites. This soil disturbance is often created through soil compaction.¹⁴⁴ Additionally, hoof action tends to dig up and puncture the soil surface (McQuaid-Cook 1978), which causes greater sediment loss than any other form of recreational trail use (Seney and Wilson 1991) and increases the potential for disturbance-tolerant vegetation (e.g., exotic plant) establishment. Vegetation impacts can be much more pronounced than from that of hikers who tend to flatten vegetation while horses tend to churn up soil, thus, cutting plants off at the rootstalk (Whitaker 1978). This can increase the spread of previously established exotics by providing loose, disturbed soil for germination and spreading reproductive plant structures. This impact initially increases exotic plant encroachment with light to moderate trail use and eventually lowers species richness values to near zero with heavy impacts (Hendee et al. 1990).

Trail widening is also a consideration as horses tend to walk on the down slope sides of trails (Whitson 1974). Anticipated results of a wider trail include a much wider area of disturbance and ongoing trail maintenance problems.

Possible biological impacts of horseback riding are disturbance to wildlife and habitat. Wildlife can be affected through the sight and sound of recreationists (Boyle and Sampson 1985). Some of the effects of disturbance to wildlife from recreational activities include changes in foraging behavior; reduction of productivity; abandonment or alteration of breeding territories; alteration of animal distribution; alteration of flight behavior; energy depletion; and disruption of nest and brood rearing attentiveness (Klein 1989, Knight and Skagen 1988).

Wildlife disturbance relative to horseback riding has been poorly studied, with most references using other activities such as hiking and cross-country skiing to infer horseback riding impacts. Only one study identified disturbance tolerance of waterfowl to horseback riders and found that horseback riders could approach geese up to a distance of 150 feet. This is compared to

¹⁴⁴ Horse hooves can produce as much as 1,500 pounds per square inch of pressure exerted on the soil surface with each step (Hendee et al. 1990).

suggested hiking trail distances of 250 feet (Miller et al. 1998) and boat buffers ranging from 250 to 900 feet (depending on type of boat, whether motorized, and species impacted; Burger et al. 1999). The 150-foot approach distance offered by Owen (1973) is consistent with observations suggesting that horseback wildlife observers can approach wildlife at closer distances than through other forms of travel. Many wildlife species appear to be habituated to livestock and thus are less likely to flee when approached through this method. However, any form of approach is expected to cause some disturbance, which will vary according to the species affected and the type, level, frequency and duration of disturbance, as well as the time of day or year that it occurs.

In addition to direct impacts to wildlife, habitat can be affected through vegetation trampling, soil compaction and erosion (Cole 1983, 1990). Public use activities can also have adverse impacts on vegetation and soil conditions. Impacts from vegetation trampling can lower species richness, decrease ground cover and density of plant species, increase species diversity through an increase in weedy annuals, and induce changes in species composition (Grabherr 1983, Bright 1986, Bonanno 1992).

The extent of impacts from horseback riding varies. Horseback riding in the spring may contribute to short-term, albeit moderate to severe, disturbances of ground nesting birds. At other times of the year, wildlife would likely not experience significant impacts from disturbance. Impacts to native vegetation would occur from horses as they moved over the landscape and could be extensive depending on the amount of use and the time of year. Noxious weeds could be spread further into shrub-steppe habitat from either on-site weed sources or from horse droppings; vegetation maintenance (noxious weeds and native plants) along roads and trails would be less problematic than treating new or managing existing weed sources out on the landscape. Overall, disturbances along trails and roads and out on the landscape will result in minor impacts to resident wildlife but may have long-term impacts such as noxious weed spread and infestation.

Public Review and Comment

This Compatibility Determination was prepared concurrent with the Monument's CCP/EIS. Open houses were held and written comments were solicited from the public during the scoping period for the Monument's CCP/EIS. Public review and comment will be solicited during the draft CCP/EIS comment period.

Determination

_____ The use is not compatible.

X The use is compatible with the following stipulations.

Stipulations Necessary to Ensure Compatibility

At present, horseback riding on the Monument is unmonitored, and the impacts to wildlife and associated habitat are unknown. However, use is relatively low, and most occurs during cooler months when wildlife is not as active or when disturbance is not as likely to be detrimental (i.e., during breeding or nesting seasons). However, as stated by the anticipated impacts described in the previous section, any increased or unrestricted horseback riding could lead to impacts on wildlife resources through exotic seed encroachment, vegetative trampling, erosion, and wildlife disturbance. These impacts would be cumulative with associated impacts from other public use opportunities. Therefore, in order to ensure the compatibility of this use, the following stipulations would be necessary.

- Horseback riding must be restricted to certain areas (e.g., roads open to vehicular travel, administrative roads, dedicated or multi-use trails). In these areas, anticipated impacts are not believed to exceed those already induced by vehicles and foot travel associated with other public use activities.
- Any horseback riding area would be subject to seasonal closures based on the presence of sensitive wildlife populations.
- Horse trailers would be restricted to designated parking areas listed in the refuge brochure and posted on site.
- Horseback riding would be a day-use only.
- Designated horseback riding areas would be signed at both ends and at regular intervals throughout the length of the road/trail. Riders would be required to ride single-file.
- A maximum number of riders per party, day, or season will be established.
- A system to monitor the level of use and vegetation damage and impact along roadsides, designated parking areas, and trails would need to be established.
- The activity could be reduced or closed with the finding of significant negative impacts to Monument facilities or natural and cultural resources.

Justification

While not listed as a primary, wildlife-dependent recreational use under the National Wildlife Refuge System Administration Act, as amended, horseback riding is believed to be a compatible public use under the stipulations outlined in this compatibility determination. The primary reasons for this determination include:

- 1) Wildlife observation can be an element of horseback riding.
- 2) Horseback riding allows the U.S. Fish and Wildlife Service (FWS) to reach a target audience that would not be reachable through any other opportunity; horseback riders are potential partners and a potential source of support for the Monument.
- 3) Impacts associated with horseback riding are not believed to exceed impacts already caused by other public use activities in select areas.

It is understood from the summary of anticipated impacts that many elements of the horseback riding program have the potential to detract from the FWS's ability to achieve Monument purposes. These impacts will be monitored and if they, or any as yet not considered impacts are discovered, this compatibility determination would be reevaluated.

Mandatory 10- or 15-year Re-evaluation Date

Provide month and year for "allowed" uses only.

- ☒ Mandatory 15-year re-evaluation date (for wildlife-dependent public uses).
- ☐ Mandatory 10-year re-evaluation date (for all uses other than wildlife-dependent public uses).

NEPA Compliance for Refuge Use Decision

- ☐ Categorical Exclusion without Environmental Action Statement.
- ☐ Categorical Exclusion and Environmental Action Statement.
- ☐ Environmental Assessment and Finding of No Significant Impact.
- ☒ Environmental Impact Statement and Record of Decision.

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Signatures

Monument Project Leader: _____
(Signature and Date)

Refuge Supervisor: _____
(Signature and Date)

Regional Chief: _____
(Signature and Date)

DRAFT Compatibility Determination - Hunting

Use

Hunting (Big Game, Waterfowl, and Other Migratory Birds)

Refuge Name

Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge (Monument)

Establishing and Acquisition Authorities

The Saddle Mountain National Wildlife Refuge (24,000 acres) was established on November 30, 1971, through a permit with the Department of Energy and under the authority of the Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742(a)-754).

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The Monument was established “. . . for the purpose of protecting the objects identified above [riparian, aquatic and upland shrub-steppe habitats; native plant and animal species; free-flowing, non-tidal stretch of the Columbia River; shrub-steppe ecosystems; breeding populations of birds; habitat for migratory birds; mammals; insect populations; geological and paleontological objects; Archaeological and historic information] . . .” (Monument Proclamation 7319, dated June 9, 2000).

National Wildlife Refuge System Mission

In the NWRS Improvement Act, the United States Congress declared hunting one of six wildlife-dependent public uses of the NWRS. If determined compatible, hunting would become a priority public use for the Monument.

Description of Use

*Hunting on the Ringold, Saddle Mountain and Wahluke Units, shorelines of the Columbia River Islands between river miles 343-351, and shorelines of the Columbia River Corridor*¹⁴⁵

The U.S. Fish and Wildlife Service (FWS) proposes to allow hunting of resident game and migratory waterfowl within Washington Department of Fish and Wildlife (WDFW) established seasons, bag limits, and species sanctuaries. Hunting on these areas for specific species generally begins September first and ends on the third weekend in January. The longest continuous species-specific hunting seasons during this time are waterfowl (second weekend in October to the third weekend in January) and upland birds (October-January); the shortest seasons are dove (first two weeks of September) and deer and elk (selected seven- to thirty-day periods in September, October and November/December, depending on the area and weapon used).

*Species That Can Be Hunted On The Monument*¹⁴⁶

- | | |
|------------------------------|--------------------------------|
| • California Quail | • Coot |
| • Chukar | • Ducks (All Species) |
| • Gray (Hungarian) Partridge | • Geese (Brant, Canada, Snow) |
| • Mourning Dove | • Deer (White-tailed and Mule) |
| • Ring-necked Pheasant | • Elk |
| • Snipe | |

¹⁴⁵ Currently, hunting of differing species is allowed in what would be the north shore of Columbia River Corridor Unit (east of the fence marking the Saddle Mountain National Wildlife Refuge), Ringold Unit, Saddle Mountain Unit, and eastern half of the Wahluke Unit.

¹⁴⁶ In accordance with Washington State hunting regulations and subject to certain restrictions as noted elsewhere. For example, waterfowl hunting is not allowed within 1/4-mile of the Columbia River between the Vernita Bridge and the old Hanford town site wooden (tower) powerline. Please refer to the WDFW hunting regulations for full details. Species not identified here cannot be hunted.

Hunting as a Population Control Measure

As one of several measures proposed to control wildlife population numbers in the event of overpopulation, hunting of the target species by the public at-large or by identified groups could be implemented. At this time, the only wildlife population creating socio-economic concerns is the Rattlesnake Hills Elk Herd; hunting to address those concerns is included in this Compatibility Determination. Elk population-control hunting on the Rattlesnake Unit is included in Alternative C of the CCP/EIS.

Under the potential action, the FWS and WDFW would conduct a heavily regulated elk hunt on the Rattlesnake Unit.¹⁴⁷ This potential action was developed in response to the WDFW's request for assistance in cooperative management of the Rattlesnake Hills Elk Herd (see Chapter 3 of the EIS, Section 3.21.2, for a description of the elk herd).¹⁴⁸ The potential regulated elk hunt would be part of a three-tiered approach to elk management.¹⁴⁹

Availability of Resources

The Monument requires additional staff and funding to administer the current hunting program. All or portions of the (new) Columbia River Corridor, Ringold, Saddle Mountain, and Wahluke Units have been open to hunting (by the state of Washington) from 1971-1999; these areas have

¹⁴⁷ The DOE has determined that hunting in the Rattlesnake Unit is not consistent with its current mission. As the mission of the DOE changes, or as the current ownership situation changes, hunting may be desirable and possible for elk population management.

¹⁴⁸ The Rattlesnake Hills Elk Herd population objective is equal to or less than 350 elk (WDFW 2002). The current population estimate is approximately 538 elk, based on 2006 surveys.

¹⁴⁹ The initial tier would include a state-regulated, limited-permit, modern-firearms hunt with a maximum of ten permits issued per designated hunting period. The number of permits per hunting period, number and length of hunt periods, and types of animals to be taken (cow, spike, bull, etc.) would be determined by the FWS in consultation with the WDFW annually, based on harvest data from proceeding years and winter aerial survey results.

If the regulated population control hunts on the Rattlesnake Unit—in combination with landowner access permits issued to private landowners by the WDFW, special permits, and the general elk hunting season—did not reduce herd numbers to management goals, then the FWS could proceed to a second-tier action. This would involve a trapping and relocation of elk in a quantity and composition (i.e., bull, spike, cow, calf) at least sufficient to meet management goals.

If management goals could not be met due to lack of funding, herd health issues, and/or a lack of release sites for captured animals, then the Monument could proceed to a third-tier action. This third tier would involve a management cull (elk removed by qualified FWS/WDFW personnel).

Any of these actions can be used in combination to control populations. As the final two tiers are an FWS-authorized management activity, they are not subject to a compatibility determination.

remained open to hunting since the Monument was established. Access trails, parking lots, signs and other facilities are inadequate, as well as are staff resources, to enforce regulations and maintain these facilities. Funding associated with facilities (roads, parking areas, signs, etc.) maintenance are included in other refuge programs requiring the same support.

We anticipate that approximately 65% of the funding required will be needed to manage the potential population control elk hunt on the Rattlesnake Unit (pending selection of a Preferred Alternative).

Position & GS Level	Involvement	FTE	Recurring Expense
Project Leader/Deputy Project Leader (GS 13/14)	Oversight Coordination with the WDFW; Program Management	0.05	\$9,000
Wildlife Biologist (GS-11)	Elk Monitoring; Reporting; Hunt Plan Updates; Coordination; Program Management	0.47	\$35,500
Law Enforcement (GS-09)	Coordination with WDFW Law Enforcement; Field Monitoring of Hunters	0.44	\$31,000
Recreation Planner (GS-11)	Outreach; Briefings	0.27	\$19,600
<i>Total Annual FTEs and Cost</i>		<i>1.23</i>	<i>\$95,000</i>

Anticipated Impacts of the Use

Hunting has given many people a deeper appreciation of wildlife and a better understanding of the importance of wildlife and habitat conservation, which ultimately contributes to the NWRS mission. Furthermore, a goal of the Monument is to provide opportunities for quality wildlife-dependent recreation. By law, hunting is one of the six priority public uses of the NWRS.

Hunting, by its nature, results in the intentional take of individual animals, as well as wounding and disturbance (DeLong 2002). It can also alter behavior (e.g., foraging time), population structure, and distribution patterns of wildlife (Owens 1977, Raveling 1979, White-Robinson 1982, Thomas 1983, Bartelt 1987, Madsen 1985, and Cole and Knight 1990).

Harvest data are reported by hunters to WDFW and season and bag limits are adjusted accordingly to ensure that overall populations of game species remain healthy into the future. While hunter use of these areas has not been closely monitored, we would expect hunter numbers to increase over the next fifteen years. Impacts will be monitored, and, if necessary, measures would be considered in coordination with WDFW to protect Monument resources.

Ringold, Saddle Mountain and Wahluke Units

There will be a total of 56,000-67,000 acres combined (dependent on the final Preferred Alternative selected) available for hunting in these units. Even though there is the potential of having hunters on either the Wahluke or Saddle Mountain Units, or both, every day of the week from September through January, they are dispersed across the landscape (upland bird and big game hunting), more concentrated where target species are more likely to occur (waterfowl hunting), and/or more populous on weekends (any species) and opening and closing days of specific seasons (deer hunting). Additionally, access into the majority of both units is from peripheral roads and parking areas, with access to more remote areas by foot only. While hunting in these units may affect non-target species through disturbance and shooting, there will be areas where little or no disturbance occurs.

Shorelines of the Columbia River Corridor and islands between river miles 343-351.

All activities below the mean high water level are regulated by the state of Washington.

Shoreline hunting allows the hunters direct access to the river, bays and sloughs and islands. Access to Columbia river shorelines would be by foot or boat. Land access would be from parking lots 1-7 and hunters would either hike cross-country or on established trails to the shoreline. Waterbird and waterfowl use of these areas varies seasonally, as does hunter presence. Waterfowl are prevalent on the river in the winter, especially when surrounding wetlands freeze. Bald eagles roost sites occur within the hunting area, with eagles more common in winter months. The nesting period identified in the Bald Eagle Recovery Plan identifies January 1 as the beginning of the nesting season when special protective measures should begin (FWS 1986). With a waterfowl hunting sanctuary located upstream of the wooden powering crossing at the old Hanford Townsite, hunting areas along the Hanford Reach have very little overlap with Bald Eagle nesting habitat. Heron rookeries occur along the river corridor. Based on the literature there may be some disturbance to rookeries during the early part of the hunting season as young birds could still be in the vicinity. In the middle to later part of the hunting season, no disturbance is anticipated.

Islands within the Hanford Reach are characterized by significant cultural resources. Access to islands above the mean high water mark has the potential to adversely impact cultural resources. No access will be permitted above the mean high water mark.

Rattlesnake Unit

There would be approximately 42,000 acres (52% of the Rattlesnake Unit) available for elk population control hunting. At no time would all of the hunting area have hunters on it. Depending on where the elk are located and the time of year hunting occurs, it is anticipated that less than 25% of the 42,000 acres would have reoccurring hunting. A maximum of ten hunters will be allowed to use the Monument in any one day. Because of the open nature of the

landscape, larger numbers of hunters could impact elk distribution and behavior with subsequent reduced elk harvest rates. Hunting periods would only be implemented when there is a high likelihood of harvesting elk. For these reasons and those listed below, it is anticipated that there will be none or very little hunting on the Rattlesnake Unit in either the early or late parts of the hunting season. It is likely that more effort will be expended in controlled hunting during the winter months (December-February) to maximize elk harvest and minimize any impacts.

In addition to the death of individual elk, some short-duration disturbance is expected to the elk herd. However, as noted above, the Monument's primary purpose in implementing this action is to assist the WDFW in controlling the population of the Rattlesnake Hills Elk Herd.¹⁵⁰ Controlling the numbers of elk also may help to maintain the biological integrity, diversity, and environmental health of the Monument as a whole if numbers were to become too great for the forage available.

Hunting may affect other species in the hunting area, including mule deer, coyotes and various bird species. Elk hunters can be expected to disturb other species by their movements and shooting activities in the field. Even though there is the potential of having hunters on the Rattlesnake Unit from September-April, the limited acreage open to hunt would limit the disturbance factor. Nearby resting and feeding areas would be available for use by other refuge species that are disturbed. These species would likely move to other areas of the unit which are less accessible to the hunters or are not designated hunting areas. Due to the limited hunting areas, effects to vegetation would be localized and are anticipated to be minor.

Effects to other public uses are expected to be minimal due to the location of the hunt, which would be on the interior of the Rattlesnake Unit, which currently is otherwise closed to public use. Some noise from the firearms may be experienced by the public driving along State Route 240, but this is unlikely as most hunting will occur within the interior of the unit, far removed from public roads. The public traveling on State Route 240 may occasionally observe elk or other wildlife species flushed into the open due to hunter activity. Again, due to the limited hunt area and distance from public roads, all effects are expected to be minor and of short duration.

Public Review and Comment

This Compatibility Determination was prepared concurrent with the Monument's CCP/EIS. Open houses were held and written comments were solicited from the public during the scoping period for the Monument's CCP/EIS. Public review and comment will be solicited during the draft CCP/EIS comment period.

¹⁵⁰ Options for controlling the size of the elk herd are limited due to state of Washington concerns regarding relocation of animals, limited funds for moving elk, and social tolerances for a government cull. For detailed information concerning a description of affected habitats and wildlife and the environmental consequences of the proposed action, the reader may reference Chapters 3 and 4 of the EIS.

Determination

_____ The use is not compatible.

X The use is compatible with the following stipulations.

Stipulations Necessary to Ensure Compatibility

Monument hunting programs will be designed to provide high-quality experiences. A quality hunt experience means that: 1) hunters are safe; 2) hunters exhibit high standards of ethical behavior; 3) hunters are provided with uncrowded conditions; 4) hunters have reasonable harvest opportunities; 5) hunters are clear on which areas are open and closed to hunting; and 6) minimal conflicts occur between hunters and other visitors, especially those engaging in other wildlife-dependent priority public uses. The seven-day-per-week recreational hunting program proposed on the Columbia River Corridor, Ringold, Saddle Mountain and Wahluke and Units, and the potential limited-entry, population-control elk hunt on the Rattlesnake Unit, would include the following management actions and/or restrictions to reduce impacts:

- Maintenance of the existing WDFW waterfowl sanctuary on the Columbia River (from the Vernita Bridge downstream to the wooden power lines, a locally known landscape feature);
- Maintaining a sanctuary from hunting on the Rattlesnake (except for the potential population control elk hunt) and western end of the Wahluke Units;
- Providing sufficient escape, feeding and resting habitat for wildlife in both open and closed areas;
- Conducting periodic biological and social monitoring and evaluation of hunting programs, including feedback from users, to determine if objectives are being met;
- All hunting on the Monument would require the appropriate state license and tag and would occur consistent with applicable state regulations.
- Waterfowl hunting would be allowed at the WB-10 Ponds, along the shoreline of the Columbia River between Parking Lots 1 and 7, and below the mean high water level on islands between river miles 343-351.¹⁵¹

¹⁵¹ Primary jurisdiction below the mean high water mark along Columbia River shorelines within the Monument lies with the state of Washington. Primary jurisdiction within the easement associated with the WB-10 Ponds, Saddle Mountain Lakes, and irrigation return wasteways is administered by the Bureau of Reclamation.

- Only non-toxic shot is allowed for upland birds and migratory waterfowl.
- Per Department of Energy (DOE) restrictions, no centerfire rifles are allowed for big game hunting, and only shotguns, muzzleloaders, and archery are allowed for taking elk or deer on these units.
- Hunters will use existing open roads and parking areas to access hunting sites, and all hunting will be conducted on foot.
- Hunter compliance with current migratory bird, upland and big game hunting and Monument regulations would be achieved through a combination of printed information (WDFW and Monument), signs, outreach efforts, and enforcement of regulations by FWS, WDFW or other law enforcement officers.
- Camping, overnight use, and fires are prohibited.
- Construction of pit blinds is not permitted.

Stipulations Specific to the Rattlesnake Unit

- Population-control hunting will be by permit only.
- Only modern firearms can be used, with safety zones/no access zones established near roads, facilities, sensitive habitats and research areas.
- Any hunt must be coordinated with ongoing FWS and DOE research, monitoring, management, and education activities and hunts can be suspended at any time.
- Hunting activities will take place in the interior of the Rattlesnake Unit to minimize/eliminate movement towards public roads and Central Hanford.
- A maximum of ten hunters will be allowed to use the Monument in any one day, with one hunting period consisting of one month (Monday through Friday only).
- One person per permitted hunter will be allowed to assist the hunter during the hunt.
- Additional help may be allowed to retrieve an elk.
- Timing will generally coincide with hunting seasons established by the WDFW.
- The WDFW will publish the hunting dates, number of permits to be issued, and other regulations in the Washington State's Big Game Hunting pamphlet. This information may also be obtained by contacting the Monument headquarters.

- All elk population control hunters must attend an FWS-led orientation each year prior to hunting. The orientation would cover rules and regulations specific to the population control hunt and to Rattlesnake Unit access in general. Orientation material would be designed to facilitate a successful hunt while minimizing impacts to sensitive resources on the Rattlesnake Unit.
- Hunters must sign in and out each day they hunt.
- Hunters must report success/failure and any hit-but-not-retrieved animals when they sign out each day.
- Hunting is on Mondays through Fridays only.
- Initial hunts may utilize Native Americans and the Advanced Hunter Education Program to provide for tribal use and help minimize the chances of missed shots and impacts on other species.
- Hunters are only allowed to operate motorized vehicles on designated roads and parking areas.
- No camping is allowed.
- No open fires or flames are allowed.

Justification

When determined compatible, hunting is one of the six priority public uses of the NWRs. Providing a quality hunting program contributes to achieving one of the Monument's goals. This program as described was determined to be compatible, in view of the potential impacts that hunting can have on the FWS's ability to achieve Monument purposes and goals. Refuge hunting programs are designed to provide high-quality experiences. In general, hunting on national wildlife refuges should be superior to that available on other private or public lands, which may require special restrictions (Refuge Manual 8RM5). Measures are often used to ensure quality, including limited hunt days and shell limits and using buffers for public use trails, eliminating the need for seasonal trail closures. The limited hunt program is proposed on the Monument to provide a quality hunting experience that meets Monument guidelines and policies.

It is anticipated that an adequate amount of quality, non-hunted and closed habitat would be available to both hunted and non-hunted wildlife because: 1) some high wildlife use areas will

remain closed; and 2) some high wildlife use areas open to hunting will be hunted infrequently or not at all due to the walking distance required. A program will be implemented to monitor wildlife populations numbers and habitats in both open and closed areas.

Mandatory 10- or 15-year Re-evaluation Date

Provide month and year for “allowed” uses only.

- _____ Mandatory 15-year re-evaluation date (for wildlife-dependent public uses).
- ☒ Mandatory 10-year re-evaluation date (for all uses other than wildlife-dependent public uses).

NEPA Compliance for Refuge Use Decision

- _____ Categorical Exclusion without Environmental Action Statement.
- _____ Categorical Exclusion and Environmental Action Statement.
- _____ Environmental Assessment and Finding of No Significant Impact.
- ☒ Environmental Impact Statement and Record of Decision.

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Signatures

Monument Project Leader: _____
(Signature and Date)

Refuge Supervisor: _____
(Signature and Date)

Regional Chief: _____
(Signature and Date)

DRAFT Compatibility Determination - Research And Management Studies

Use

Research and Management Studies

Refuge Name

Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge (Monument)

Establishing and Acquisition Authorities

The Saddle Mountain National Wildlife Refuge (24,000 acres) was established on November 30, 1971, through a permit with the Department of Energy and under the authority of the Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742(a)-754).

The Hanford Reach National Monument (195,000 acres), which includes the Saddle Mountain National Wildlife Refuge, was established on June 9, 2000, through Presidential Proclamation 7319 under the authority of the Antiquities Act of 1906.

Refuge Purposes

National wildlife refuges are established “. . . for the development, advancement, management, conservation, and protection of fish and wildlife resources . . .” (16 U.S.C. §742f(a)(4)) and also “. . . for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude . . .” (16 U.S.C. §42f(b)(1); Fish and Wildlife Act of 1956, 16 U.S.C. §742(a)-754, as amended).

The Monument was established “. . . for the purpose of protecting the objects identified above [riparian, aquatic and upland shrub-steppe habitats; native plant and animal species; free-flowing, non-tidal stretch of the Columbia River; shrub-steppe ecosystems; breeding populations of birds; habitat for migratory birds; mammals; insect populations; geological and paleontological objects; Archaeological and historic information] . . .” (Monument Proclamation 7319, dated June 9, 2000).

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS) is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use

Two provisions of the National Wildlife Refuge Improvement Act are to “maintain biological integrity, diversity and environmental health” and to conduct “inventory and monitoring.” Refuge plans and actions based on research and monitoring provide an informed approach to habitat, wildlife, and public use programs. Research on fish, wildlife, habitat, and visitor use is an existing use on the Monument and is conducted by independent researchers and partnering agencies. Some research is used to address basic wildlife conservation questions, such as survival of federally listed endangered and threatened juvenile salmon stocks in the Columbia River System. Other research is more specific to Monument management and resources and is used in an adaptive way to refine habitat, wildlife and public use management programs.

The U.S. Fish and Wildlife Service (FWS) receives several proposals each year to conduct research on the Monument. Research applicants are required to submit a proposal that outlines:

- 1) The objectives of the study;
- 2) A justification for the study;
- 3) A detailed methodology and schedule;
- 4) The potential impacts on wildlife or its habitat, including disturbance (short- and long-term), injury, or mortality (including a description of measures the researcher will take to reduce disturbance or impacts);
- 5) The research personnel required;
- 6) Costs to the FWS, if any; and
- 7) A time line for submitting progress reports and final products (i.e., reports, theses, dissertations, publications).

Research proposals are reviewed by Monument staff. If the proposal is approved, a Special Use Permit(s) are issued by the Project Leader. Evaluation criteria and specific provisions for approval of studies includes, but is not limited to, the following list. Future research proposals

will also be subject to these criteria and provisions. This would also apply to any properties acquired in the future within the approved boundary of the Monument.

- Research that contributes to specific Monument management issues is given a higher priority over other research requests.
- Research that conflicts with other ongoing research, monitoring, or management programs will not be granted.
- Research projects that can be accomplished off the Monument are less likely to be approved.
- Research which causes undue disturbance or is intrusive is not likely to be granted.
- The level and type of disturbance will be carefully evaluated when considering a request. Strategies to minimize disturbance through study design, including location, timing, scope, number of permittees, study methods, number of study sites, etc, will be encouraged.
- If staffing or logistics make it impossible for the Monument to monitor the researcher, the permit is likely to be denied.
- If the activity is in a sensitive area, the research request may be denied, depending on the specific circumstances.
- The length of the project will be considered and agreed upon before approval.
- Projects will be reviewed annually.

Special Use Permits would be issued for monitoring and investigations which contribute to the enhancement, protection, preservation, management of native plant and wildlife populations and their habitats, public use, and other important resources, especially as they relate to refuge lands and management activities. Other proposals (e.g., physics research) would be subject to even stricter considerations of the potential impacts to wildlife and its habitats, geological resources, cultural resources, aesthetics and visitor use and enjoyment.

Availability of Resources

The following funding would be required to administer and manage research activities as described above. No special equipment, facilities, or improvements are anticipated. Current budget allocations are sufficient to administer and manage this use.

<i>Activity or Project</i>	<i>One Time Expense</i>	<i>Recurring Expense</i>
Administration (Evaluation of Applications, Management of Permits, Oversight)		\$3,000
Monitoring		\$5,000
Totals		\$8,000

Anticipated Impacts of the Use

Use of the Monument to conduct research will generally benefit public use, plant populations, fish, wildlife, and habitat and contribute to the recovery of listed threatened and endangered species. Research investigations would be used to assist in managing Monument habitats to aid in recovery efforts and long-term habitat viability. Specific restoration and habitat management questions would be addressed through research investigations, such as the burrowing owl and pygmy rabbit studies currently being conducted. Additionally, research investigations would address public use impacts on natural resources or conflicts among public uses.

An expected short-term effect of monitoring and research investigations is that Monument management activities would be modified to improve public use and habitat and wildlife populations as a result of new information. Expected long-term and cumulative effects include a growing body of science-based data and knowledge as new/continued monitoring and new/continued research compliments and expands upon previous investigations. This body of data and information would contribute towards the best Monument management possible.

Direct damage or alteration to the habitat from researchers would be minor due to the research proposal evaluation process, Monument monitoring, and stipulations imposed through the Special Use Permit. However, some increase in invasive plants is possible from ground disturbance and/or transportation of source seed on research equipment and personnel. Likewise, there would be the localized and temporary effects resulting in direct impacts of vegetation trampling, collecting of soil and plant samples, or trapping and handling of wildlife. Other potential, but localized and temporary, effects would include wildlife disturbance, which is expected with some research activities, especially where researchers are entering sanctuaries or sensitive islands with colonial nesting birds. Researcher disturbance could result in altering wildlife behavior. However, most effects would be short-term. Only the minimum of samples (e.g., water, soils, vegetative litter, plants, macroinvertebrates) required for identification and/or experimentation and statistical analysis would be permitted. Captured animals would be handled, marked, and released in a humane manner with full consideration to animal welfare.

Few long-term and/or secondary effects should be encountered as the evaluation of research proposals would ensure only those with adequate safeguards to avoid/minimize impacts are

allowed. Those research activities with potential impacts would be mitigated/minimized through the implementation of sufficient restrictions on the Special Use Permit, study design, and researcher activities. Monitoring by Monument staff should also avoid or alleviate impacts. There likely will be no cumulative effects associated with other on-going research and management studies.

Public Review and Comment

This Compatibility Determination was prepared concurrent with the Monument's CCP/EIS. Open houses were held and written comments were solicited from the public during the scoping period for the Monument's CCP/EIS. Public review and comment will be solicited during the draft CCP/EIS comment period.

Determination

_____ The use is not compatible.

 X The use is compatible with the following stipulations.

Stipulations Necessary to Ensure Compatibility

If proposed research methods are evaluated and determined to have potential adverse impacts on wildlife or habitat, then the manager will determine the utility and need of such research to conservation and management of wildlife and habitat. If the need is demonstrated by the research permittee, and accepted by the refuge, then measures to minimize potential impacts (e.g., reduce the numbers of researchers entering an area, restrict research in specified areas) will be developed and included as part of the study design and included on the special use permit. Other stipulations and provisions include:

- The criteria for evaluating a research proposal, outlined in the Description of Use section above, will be used when determining whether a proposed study will be approved on the Monument.
- Special use permits will contain specific terms and conditions that the researcher(s) must follow relative to activity, location, duration, seasonality, etc., to ensure continued compatibility. All refuge rules and regulations (CFR 50) must be followed, unless otherwise exempted in writing by Monument management.

- Sensitive wildlife habitat areas will be avoided unless sufficient protection from research activities (i.e., disturbance, collection, capture and handling) is implemented to limit the area and/or wildlife potentially impacted by the proposed research.
- When and where needed, some areas may be temporarily/seasonally closed to researchers; research can be permitted to resume when impacts to wildlife and habitat are no longer a concern.
- Research activities will be modified to avoid harm to sensitive wildlife and habitat when unforeseen impacts arise, such as a wildfire altering landscape conditions or large declines in a population.
- At any time, Monument staff may accompany the researchers to determine potential impacts.
- Removal of all research equipment is required at the end of the study. Failure to remove research “paraphernalia” will result in a principal investigator not being permitted to conduct future scientific studies on refuge/monument lands.
- The FWS receives a copy of the raw data after the study is completed based upon a final report or published paper.
- For long-term ecological study, status reports at regular reporting intervals are required that present preliminary findings and any issues associated with project implementation. The schedule for interim reports also should be presented in the study proposal.
- Sampling equipment will be cleaned before use on the refuges as well as when transported between study sites to eliminate or reduce the spread of invasive species.

Refuge staff will monitor researcher activities for compliance with conditions outlined on the Special Use Permit. A Monument manager may determine that previously approved research and Special Use Permits be terminated:

- 1) If the researcher is out of compliance with permit conditions;
- 2) To ensure wildlife and habitat protection; and/or
- 3) To protect visitor and public safety.

Justification

The Monument was created under the provisions of the Antiquities Act of 1906. Under the Antiquities Act, national monuments can be created for one of two reasons: 1) to protect ‘antiquities,’ as the title implies; or 2) to provide opportunities for research. The Monument was created under the latter provision. As such, there is an expectation that the Monument provide for research. This is in keeping with the long-standing use of the Hanford Nuclear Site (including the Monument) for research. Under Department of Energy (DOE) management, the Fitzner-Eberhardt Arid Lands Ecology Area (ALE) was/is designated a Research Natural Area (in 1971 via an agreement between the Departments of Energy and Interior) and a National Environmental Research Park (in 1977 by the U.S. Energy Research and Development Administration, a precursor to the DOE). Over the years and under DOE permit, researchers from prestigious institutions like Battelle and the Pacific Northwest National Laboratory and universities like California-Irvine, California Institute of Technology, Idaho, Massachusetts Institute of Technology, Oregon State, Washington, Washington State, and many others have used what are now Monument lands to advance science.

Monitoring and research investigations are also an important component of adaptive management. Standardized monitoring would be used to ensure data compatibility for comparisons from across the landscape.

Natural resource inventories, monitoring and research are not only provisions of the National Wildlife Refuge Improvement Act, but they are necessary tools to maintain biological integrity, diversity and environmental health, which are also key provisions of the act. Inventories, monitoring and research are intended to improve habitat, wildlife populations, biological integrity, diversity and environmental health, and to monitor public use impacts. Monitoring and research will directly benefit and support Monument goals, objectives and management plans and activities, as well as contribute to recovery of endangered/threatened species.

Wildlife-dependent public uses (wildlife viewing and photography, environmental education and interpretation, fishing and hunting) would also benefit as a result of increased biodiversity, wildlife and native plant populations. Monument staff would ensure research projects contribute to the enhancement, protection, preservation and management of wildlife populations and their habitats, thereby helping the Monument fulfill the purposes for which it was established, the mission of the NWRs, and the need to maintain ecological integrity.

Mandatory 10- or 15-year Re-evaluation Date

Provide month and year for “allowed” uses only.

- _____ Mandatory 15-year re-evaluation date (for wildlife-dependent public uses).
- X Mandatory 10-year re-evaluation date (for all uses other than wildlife-dependent public uses).

NEPA Compliance for Refuge Use Decision

- _____ Categorical Exclusion without Environmental Action Statement.
- _____ Categorical Exclusion and Environmental Action Statement.
- _____ Environmental Assessment and Finding of No Significant Impact.
- X Environmental Impact Statement and Record of Decision.

Signatures

Monument Project Leader: _____
(Signature and Date)

Refuge Supervisor: _____
(Signature and Date)

Regional Chief: _____
(Signature and Date)

DRAFT Compatibility Determination - Interpretation, Environmental Education, Wildlife Observation & Photography

Use

Interpretation, Environmental Education, Wildlife Observation, and Photography¹⁵²

Refuge Name

Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge (Monument)

Establishing and Acquisition Authorities

The Saddle Mountain National Wildlife Refuge (24,000 acres) was established on November 30, 1971, through a permit with the Department of Energy and under the authority of the Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742(a)-754).

The Hanford Reach National Monument (195,000 acres), which includes the Saddle Mountain National Wildlife Refuge, was established on June 9, 2000, through Presidential Proclamation 7319 under the authority of the Antiquities Act of 1906.

Refuge Purposes

National wildlife refuges are established “. . . for the development, advancement, management, conservation, and protection of fish and wildlife resources . . .” (16 U.S.C. §742f(a)(4)) and also “. . . for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude . . .” (16 U.S.C. §42f(b)(1); Fish and Wildlife Act of 1956, 16 U.S.C. §742(a)-754, as amended).

The Monument was established “. . . for the purpose of protecting the objects identified above [riparian, aquatic and upland shrub-steppe habitats; native plant and animal species; free-flowing, non-tidal stretch of the Columbia River; shrub-steppe ecosystems; breeding populations of birds; habitat for migratory birds; mammals; insect populations; geological and

¹⁵² This includes the means of access, such as hiking, horseback riding on trails, bicycling on existing roads open to the public, canoeing, etc.

paleontological objects; Archaeological and historic information] . . .” (Monument Proclamation 7319, dated June 9, 2000).

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS) is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use

In the NWRS Improvement Act, the United States Congress declared wildlife observation and photography, and environmental education and interpretation as four of six wildlife-dependent public uses of the NWRS. If determined compatible, these four uses would become priority public uses for the Monument. Currently, none of these programs are officially established, but over 20,000 (estimated) people per year participate in these activities on the Monument.

Depending on the alternative selected, ten to twenty interpretive sites, two to six interpretive trails, and six to twelve wildlife observation sites are proposed. Some sites and trails may only be open seasonally to both protect sensitive resources and to take advantage of specific interpretive, viewing, and photographic opportunities (e.g., elk on the Rattlesnake Unit). Other sites and trails will be open year-round but monitored to address any negative impacts. Interpretive points, trails, observation sites, signs, kiosks, etc., will focus on Monument wildlife and habitats, historic features, cultural resources and traditions, restoration, management, geologic resources, and the other special values of the Monument. Since there are currently very limited facilities to support these uses on the Monument, we expect wildlife observation and photography and interpretation to increase over the next fifteen years as facilities are developed.

In support of these activities, cross-country hiking will be allowed in the Ringold, Saddle Mountain, and Wahluke Units. Parking areas will be available that will also serve a trail system to be created.¹⁵³ Interpretive panels/informational signs will be installed where needed and appropriate. Interpretive and educational opportunities could be self-guided or lead by Monument staff or docent.

Currently, there is a minimal environmental education program at the Monument. However, existing staff have been able to serve approximately 1,000 students per year through classroom talks and tours or field days on the Monument. With a full-time environmental education staff,

¹⁵³ Trails could be created fresh, or they could be established on existing administrative roads.

more than 5,000 students a year could participate in the Monument's environmental education program. The proposed environmental education program is designed to provide effective resources, tools and training for teaching multi-disciplinary topics related to the Monument such as science, natural and cultural history, conservation, writing, and others. Educators would attend a teacher orientation and then design, schedule and run their own field trips on the Monument. Monument staff would provide teacher training, site-specific curricula, materials and activities, and field trip assistance where possible to enhance learning in an outdoor setting. Students and teachers could participate in restoration and monitoring activities through one-time activities or more long-term monitoring studies. Staff would work with students and educators to foster an understanding of, and appreciation for, resource management and the human impacts on wildlife and habitats. Active participation in resource protection would be encouraged.

Availability of Resources

The following funding/annual costs would be required to administer and manage wildlife observation, photography, interpretation and environmental education activities as described above.

<i>Activity or Project</i>	<i>One Time Expense</i>	<i>Recurring Expense</i>
Develop Trails	\$25-50,000	
Signs/Interpretive Panels	\$15,000	
Maintenance of Trails, Parking Areas, Other		\$75,000
Law Enforcement		\$45,000
Monitoring & Administration		\$30,000
Totals	\$40-65,000	\$150,000

Anticipated Impacts of the Use

The maintenance of trails and parking areas will impact soils, vegetation and, in some instances, hydrology around the site. This could include an increased potential for erosion, soil compaction (Liddle 1975), reduced seed emergence (Cole and Landres 1995), alteration of vegetative structure and composition, and sediment loading (Cole and Marion 1988). However, where possible, existing administrative roads (many maintained seasonally as firebreaks) and facilities will be used. In addition, most parking lots and access trails will be relatively small in size. These factors are coupled with best management practices, to minimize impacts to natural and

cultural resources.¹⁵⁴ In areas where new trails or access points are established, best management practices (e.g., seasonal closures during sensitive life cycles, routing of trails away from sensitive areas) would negate or minimize impacts.

Human activities on trails and at other access points, as well as cross-country hiking, can result in direct effects on wildlife through harassment, a form of disturbance that can cause physiological effects, behavioral modifications, or death (Smith and Hunt 1995). Numerous studies have confirmed that people on foot can cause a variety of disturbance reactions in wildlife, including flushing or displacement (Erwin 1989, Fraser et al 1985, Freddy 1986), heart rate increases (MacArthur et al 1982), altered foraging patterns (Burger and Gochfeld 1991), and even, in some cases, diminished reproductive success (Boyle and Samson 1985).¹⁵⁵ These studies and others have shown that the severity of the effects depends upon the distance to the disturbance and its duration, frequency, predictability and visibility to wildlife (Knight and Cole 1991).

On the Monument, birds are especially vulnerable and can be impacted from human activities when they are disturbed and flushed from feeding, resting, or nesting areas. Flushing, especially repetitive flushing, can strongly impact habitat use patterns of many birds species. Flushing from an area can cause birds to expend more energy, be deterred from using desirable habitat, affect resting or feeding patterns, increase exposure to predation, or cause abandonment of sites (Smith and Hunt 1995). Migratory birds are observed to be more sensitive than resident species to disturbance (Klein 1989). Herons and shorebirds were observed to be the most easily disturbed (when compared to gulls, terns and ducks) by human activity and flush to distant areas away from people (Burger 1981). A reduced number of shorebirds were found near people who were walking or jogging, and about 50% of flushed birds flew elsewhere (Burger 1981). In addition, the foraging time of sanderlings decreased, and avoidance (e.g., running, flushing) increased as the number of humans within 300 feet increased at a coastal bay refuge on the Atlantic (Burger and Gochfeld 1991).

Nest predation for songbirds (Miller et al. 1998), raptors (Glinski 1976), colonial nesting species (Buckley and Buckley 1978), and waterfowl (Boyle and Samson 1985) tends to increase in areas more frequently visited by people. In addition, for many passerine species, primary song occurrence and consistency can be impacted by a single visitor (Gutzwiller et al. 1994). This could potentially limit the number of breeding pairs of certain passerine species, thus limiting production within Monument riparian habitats (Reijnen and Foppen 1994).

¹⁵⁴ Best management practices are described in detail in Chapter 4 of the *Draft Hanford Reach National Monument Comprehensive Conservation Plan and Environmental Impact Statement*.

¹⁵⁵ Based on this information, it is likely that horseback riding and bicycling would have similar impacts.

Of the wildlife observation techniques proposed, wildlife photographers tend to have the largest disturbance impacts (Klein 1993, Morton 1995, Dobb 1998). While wildlife observers frequently stop to view species, wildlife photographers are more likely to approach wildlife (Klein 1993). Even slow approach by wildlife photographers tends to have behavioral consequences to wildlife species (Klein 1993). Other compounding factors include the potential for photographers to remain close to wildlife for extended periods of time in an attempt to habituate the wildlife subject to their presence (Dobb 1998) and the tendency of casual photographers, with low-power lenses, to get much closer to their subjects than other activities would require (Morton 1995), including wandering off trails. This usually results in increased disturbance to wildlife and habitat, including trampling of plants. Visitor education programs, monitoring, and law enforcement, coupled with best management practices for facility design would minimize impacts.

The environmental education program would use many existing public facilities, or ones created for other purposes (e.g., parking areas for anglers), including parking areas, trails, interpretive sites, and wildlife observation accommodations. This would help to minimize impacts. Additionally, this activity is considered to be of minor impact due to the stipulations imposed below and through best management practices.

Public Review and Comment

This Compatibility Determination was prepared concurrent with the Monument's CCP/EIS. Open houses were held and written comments were solicited from the public during the scoping period for the Monument's CCP/EIS. Public review and comment will be solicited during the draft CCP/EIS comment period.

Determination

_____ The use is not compatible.

 X The use is compatible with the following stipulations.

Stipulations Necessary to Ensure Compatibility

- Monitoring will be conducted to insure that high-quality habitat for wildlife feeding, resting, breeding is maintained
- A system to monitor the level of use and vegetation damage and impact along roadsides, designated parking areas, and trails would need to be established.

- Any of these activities could be reduced or closed with the finding of significant negative impacts to Monument facilities or natural and cultural resources.
- Limits will be established for the total number of environmental education groups permitted per day.
- Participants will be restricted to designated trails, sites or facilities as determined by Monument staff. Times and periods of use will also be provided.
- Education groups must provide a sufficient number of adults to supervise the group, as determined by Monument staff.
- Students involved in restoration and monitoring projects must receive some form of training (activity and project-specific) prior to commencement of the activity. This is to ensure their safety while out in the field and to minimize wildlife and habitat disturbance.
- Collection of samples for study (i.e., plants, soils) will be restricted to study areas, and samples must be used on site. Collection will be of materials needed to enhance hands-on learning and investigation and will be designed as part of structured activities and lessons, guided by teachers, and monitored by Monument staff. These activities are an integral part of the education program design and philosophy and their impacts are considered minimal.

Justification

When determined compatible, wildlife observation, photography and environmental education and interpretation become priority public uses of the Monument. Providing opportunities for these activities would contribute toward fulfilling provisions of the National Wildlife Refuge System Administration Act, as amended in 1997, and one of the goals of the Monument. Wildlife observation, photography and interpretation would provide an excellent forum for allowing public access and increasing understanding of Monument resources. The educational possibilities provided by these opportunities would outweigh any anticipated negative impacts associated with implementation of the program. The stipulations outlined above, as well as the best management practices identified, would minimize potential impacts relative to wildlife/human interactions.

To assist in interpretation and environmental education, the Monument's environmental education program would provide a diversity of environmental education opportunities to students and teachers. These include: 1) facilities, materials and training; 2) access to a variety of Monument habitats; and 3) the ability to observe wildlife and conduct hands-on exploration. The program is intended to foster a better understanding of Monument ecosystems and wildlife

resources, and in turn build a public that is more knowledgeable about, and involved in, resource stewardship.

Mandatory 10- or 15-year Re-evaluation Date

Provide month and year for “allowed” uses only.

- ☒ Mandatory 15-year re-evaluation date (for wildlife-dependent public uses).
- ☐ Mandatory 10-year re-evaluation date (for all uses other than wildlife-dependent public uses).

NEPA Compliance for Refuge Use Decision

- ☐ Categorical Exclusion without Environmental Action Statement.
- ☐ Categorical Exclusion and Environmental Action Statement.
- ☐ Environmental Assessment and Finding of No Significant Impact.
- ☒ Environmental Impact Statement and Record of Decision.

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Signatures

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Refuge Supervisor: _____
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Regional Chief: _____
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